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The Relationship between Teachers' Structural and Psychological Empowerment and their Autonomy*

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ABSTRACT

The purpose of this study was to find out the relationship between teachers' structural and psychological empowerment and their autonomy. This study was designed in the survey model. The research population consisted of teachers working at elementary, lower and upper secondary schools in the Menteşe district of Muğla city, Turkey. The sample of the study consisted of 325 teachers selected by using disproportionate cluster sampling technique. The Teacher Structural Empowerment Scale, Psychological Empowerment Scale, and Teacher Autonomy Scale were used as the data collection instruments. Descriptive statistics, *t*-test, ANOVA, and hierarchical regression analysis were used to analyze the data. According to the results of the research, teachers' structural empowerment was above medium level. Teachers had a high level of psychological empowerment and of general autonomy. Structural empowerment explained 47% of teacher autonomy on its own. Including psychological empowerment, it provided a 6% contribution to the model. Autonomy-supportive environment, facilitative school environment, and participatory decision-making environment dimensions of structural empowerment, together with individual empowerment and relational empowerment of psychological empowerment were found to be the meaningful predictors of teacher autonomy.

Key Words: Structural empowerment, Psychological empowerment, Teacher autonomy, Teacher

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INTRODUCTION

The qualifications of human resources play a fundamental role in accomplishing the objectives of educational systems. It is necessary to create environments where teachers' professional development is supported and their expertise is made use of in order to profit effectively from human resources. One of the ways to effectively make use of human resources is to create an opportunity for teachers to make decisions on their own. Indeed, teachers' being able to exhibit autonomous behaviors occupies an important place in national education systems, and as human resource qualifications which are considered relatively advanced (OECD, 2014, p. 181). However, the level of autonomy provided to teachers within curriculum, students assessment, and decision making vary across the educational systems of different countries. Especially in those countries which provide teachers with a limited level of autonomy, it could be stated that many individual and organizational factors have an influence on teachers' autonomy.

In earlier studies regarding teacher autonomy, the concept of teacher autonomy has mostly been used together with concepts like individualism, independence, and isolation (Lortie, 1975; Street & Licata, 1989). During this period, teacher autonomy has been dealt with as a power to act freely (Lundqvist, 1987). In the traditional sense, teacher autonomy has been perceived as being able to implement independent and unrelated programs in different classes, setting out and acting on one's own, not to comply with a shared schedule, and not needing to have cooperation with other colleagues (Westheimer, 2008). However, redefining the concept has become a necessity due to the fact that collaboration and interdependence have gained importance within autonomy (Vangrieken, Grosemans, Dochy, & Kyndt, 2017), and that perspectives regarding autonomy have become different. In recent studies, it has been stressed that teacher autonomy and freedom are different (Wermke & Höstfält, 2014), and teacher autonomy has been expressed as teachers' making decisions by their professional competences in collaboration with their colleagues, administrators, and students, and being held responsible for their decisions (Ramos, 2006). As is seen, teacher autonomy has been perceived as acting and making a decision in isolation with others at first, but as acting in collaboration with other professionals and being held responsible for their decisions as time progresses. In this regard, it could be stated that teacher autonomy has evolved from independence and isolation to collaboration and accountability, so as to contribute to the efficiency of education and school development.

Teacher autonomy is also closely associated with professionalism (Demirkasımoğlu, 2010; Ingersoll, 2007). Beyond its traditional definition, teacher autonomy entails a process of transparent and accountable professionalism (Helgøy & Homme, 2007). Within this frame, to whom teachers should account within autonomy has been one of the subjects recently discussed. In the literature, it is asserted that teachers are required to be held responsible for their behaviors and decisions, and to exhibit autonomous behaviors towards their school administrators, students' parents, and policymakers within an accountable frame (Helgøy & Homme, 2007; Wilkins, 2011). In this regard, the autonomy desired to be provided to teachers should be within the scope of scientific, ethical, and pedagogic principles, and might be related to the application of curriculum, selection of teaching methods and techniques, decisions about school management, classroom management, and their individual professional development (Çolak, Altınkurt, & Yılmaz, 2017). Supporting teachers' autonomous behaviors might contribute to individual and organizational outcomes, and indirectly to the quality of education. In the literature, there are several studies revealing that factors such as positive

school climate (Çolak & Altınkurt, 2017), collaborative work atmosphere (Garvin, 2007), seeing and designing the profession within teachers' expertise (Öztürk, 2011), and stakeholders' supportive behaviors (Wilches, 2007) contribute to teacher autonomy. Besides, in their study, Gagne and Deci (2005) suggested that empowerment and psychological well-being are some of the basic psychological requirements for autonomy. Similarly, Pearson and Moomaw (2005) asserted that empowering teachers contributes to their autonomous behaviors. Overall, empowering teachers structurally and psychologically could be stated to have an influence on their autonomous behaviors. For this reason, the current study focuses on the effect of structural and psychological empowerment on teachers' autonomy.

In the most general sense, empowerment is employed to point out the concepts "authority" and "power" (Tulloch, 1993). The reason why the concept of power is mostly linked with empowerment stems from the belief that power within an organization needs to be distributed in a downwards approach (Klidas, van den Berg, & Wilderom, 2007). In this regard, empowerment refers to a process in which employees within an organization can develop competencies by taking responsibility for their own professional development, and in which they resolve problems by themselves (Short, Greer, & Melvin, 1994). In a similar statement, empowerment points to a process where individuals are provided the opportunity to think, behave, and take action in an autonomous way (Sahoo, Behera, & Tripathy, 2010). What is aimed mostly to stress with empowerment is to take action to obtain positive results at both the individual and organizational level (Cai & Zhou, 2009). In terms of providing an opportunity for individuals to make choices and the autonomy to exhibit competences (Zimmerman & Rappaport, 1988), empowerment is one of the emphasized concepts in the literature on organizational behavior.

Empowerment could be considered both as a structural concept in terms of addressing intra-organizational power-sharing, and as a psychological concept in terms of revealing the feelings of those who end up sharing power (Iliman-Puskulluoglu & Altinkurt, 2017). Based on his structural power theory, Kanter (1993) stated that employees' level of control on their work is associated with job effectiveness and that their accession to formal and informal power structures is significant in terms of empowerment. Formal power structures refer to providing autonomy and the right to speak, and informal power structures indicate a process of communication and social support within an organization (Cai & Zhou, 2009; Kanter, 1993; Stewart, McNulty, Griffin, & Fitzpatrick, 2010). In this regard, structural empowerment is the redistribution of power among administrators and employees within the sharing of power and responsibilities (Spreitzer, 1996). Structural empowerment refers to a dynamic process in which power is redistributed by sharing in order for employees to be able to make and implement their own decisions (Greasley et al., 2005). In other words, it is emphasized by structural empowerment to give priority to employees regarding their behaviors and organizational decisions (Mills & Ungson, 2003). Summarily, an amount of change should be made within the administration of organizations in order for employees to empower structurally.

Kanter (1993) states that structural empowerment in organizations could be possible by enabling employees to access knowledge, resources, and support. In this sense, *accessing information* refers to being informed about an organization's objectives and values, and to being included in the decision-making process; *accessing resources* indicates a process of reaching the necessary materials and human resources to accomplish the objectives of a job;

and *accessing support* implies the provision of recommendations and feedback from other employees and administrators for achieving possible solutions (Patrick & Laschinger, 2006). From this perspective, structural empowerment refers to a conducive and facilitative environment (Moye, Henkin, & Egley, 2005). Those employees who could access such facilitative empowerment structures could be motivated much easier in jobs with a relatively higher organizational commitment (Faulkner & Laschinger, 2008).

Another important aspect of empowerment is psychological empowerment. Psychological empowerment is essentially oriented at fostering intrinsic motivation of employees, and differs from structural empowerment which emphasizes administrative practices about individuals' needs of power (Spreitzer, 1995). Conger and Kanungo (1988) defined psychological empowerment as a process of increasing employees' self-efficacy through motivation, and assert that the conditions which lead to weaknesses for employees within an organization should be identified and eliminated through a process of psychological empowerment. Beyond this definition, Thomas and Velthouse (1990) examined psychological empowerment in a conceptual model, and expressed it within the scope of four dimensions which are a sense of meaningfulness, competence, choice, and impact. Based on the conceptual model of Thomas and Velthouse (1990), Spreitzer (1995) recommended a four-dimensional model which is asserted to be experienced by individuals in order for the empowerment process to become effective. Among these dimensions, *meaning* refers to the value of a work from the perspective of an individual; *competence* is associated with the belief of an individual that expected tasks could be accomplished; *self-determination* implies an autonomous decision-making process when initiating and performing a job; and *impact* corresponds to individuals' level of control over the outcomes of a job (Lee & Koh, 2001; Spreitzer, 1995, 1996; Thomas & Velthouse, 1990). That individuals effectively experience the aforementioned dimensions of meaning, competence, self-determination, and impact signifies that they have a perception of high level psychological empowerment.

In the literature, there are various studies examining teachers' autonomy from a theoretical base (Lundström, 2015; Öztürk, 2011; Ramos, 2006; Vangrieken et al., 2017; Wermke & Höstfält, 2014). In addition, there are many studies examining the relationship between teacher autonomy and various variables such as leadership behaviors (Yazıcı & Akyol, 2017), collaboration (Vangrieken et al., 2017), school climate (Çolak & Altınkurt, 2017), learner autonomy (Yazıcı, 2016), student achievement (Ayral et al., 2014), and job satisfaction (Çolak et al., 2017). However, the number of studies examining the relationship between teachers' autonomy and their empowerment is limited (Pearson & Moomaw, 2005). There have been no studies undertaken in Turkey that have focused on the relationship between these variables. In this regard, the current study aims to determine the relationship between teachers' structural and psychological empowerment and their autonomy. In accordance with this purpose, the following research questions form the base of this research study:

1. What are the levels of teachers' structural and psychological empowerment and their autonomy?
2. Do teachers' structural and psychological empowerment and their autonomy differ according to gender, school type, and seniority variables?
3. Do teachers' structural and psychological empowerment predict their autonomy?

METHOD

The current study was designed in the survey model.

Population-Sample

The population of the study comprised 1,577 teachers working at elementary, lower and upper secondary schools in the Menteşe district of Muğla city province, Turkey, during the 2016-2017 academic year. In identification of the sample, disproportionate cluster sampling technique was employed. The sample size to represent the population was calculated as 309 for a 95% confidence level. However, taking into consideration that there might be a lower return rate or imprecise completion of scales, the data was collected from 415 teachers, and analyses were conducted with 325 valid scales returned from the participants.

Of the participants, 56.6% (n=184) are female and 43.4% (n=141) are male. 17.2% (n=56) of the participants work at elementary schools, 44% (n=143) at lower secondary schools, and 38.8% (n=126) at upper secondary schools. 17.8% (n=58) of the teachers have nine years or less seniority, 41.2% (n=134) between 10 to 19 years seniority, and 40.9% (n=133) have 20 years or more seniority.

Data Collection Tools

The data was collected through the application of three scales; the "Teachers' Structural Empowerment Scale," the "Psychological Empowerment Scale," and the "Teacher Autonomy Scale." The *Teachers' Structural Empowerment Scale* was employed in order to determine the environments which could contribute to the structural empowerment of teachers. The scale was developed by Iliman-Puskulluoglu and Altinkurt (2017) and is comprised of five dimensions, which are participatory decision-making environment, accountable environment, professional development supportive environment, facilitative school environment, and autonomy-supportive environment. The items in the scale are scored in the intervals of "1- Completely disagree" through to "5- Completely agree." Higher scores from the scale and its dimensions indicate that teachers are structurally empowered. The five-factor, 30 item structure explains 65.01% of the total variance. Goodness of fit indices that emerged as a result of confirmatory factor analysis ($\chi^2/df = 2.93$, RMSEA = .079, NFI = .96, NNFI = .97, CFI = .97, IFI = .97, RMR = .04, SRMR = .05) confirmed the validity of the scale. Cronbach's Alpha coefficients of the dimensions were found to be between .77 and .95 (Iliman-Puskulluoglu & Altinkurt, 2017). The internal consistency coefficients computed within the current study was .92 for participatory decision-making environment, .81 for accountable environment, .79 for professional development supportive environment, .90 for facilitative school environment, .88 for autonomy-supportive environment, and .96 for the whole scale.

The *Psychological Empowerment Scale* was employed in order to determine employees' psychological empowerment perceptions. The scale was developed by Spreitzer (1995) and adapted into the Turkish language by Sürgevil, Tolay, and Topoyan (2013). The scale was applied to a sample consisting of teachers by Odabaş (2014), and the validity and reliability analyses were repeated. The scale consists of eight items, which are all five-point, Likert type items, and has two dimensions which are individual-oriented psychological empowerment and relation-oriented psychological empowerment. These two factors together explain 76.17% of the total variance. The items in the scale are scored in the intervals of "1- Strongly disagree" through to "5- Strongly agree." Higher scores obtained from the scale refer to employees who are empowered psychologically in a positive way by their organizations. Cronbach's Alpha

internal consistency coefficients of the scale were found to be .93 for individual-oriented psychological empowerment, .82 for relation-oriented psychological empowerment, and .90 for the whole scale (Odabaş, 2014). The internal consistency coefficients computed within the current study are .71 for individual-oriented psychological empowerment, .75 for relation-oriented psychological empowerment, and .73 for the whole scale.

The *Teacher Autonomy Scale* was developed by Çolak (2016) to determine the autonomy perceptions of teachers. The scale is comprised of a total of 17, five-point, Likert type items in four dimensions, which are teaching autonomy, curriculum autonomy, professional development autonomy, and communication autonomy. This four-factor structure explains 63.84% of the total variance. The items in the scale are scored in the intervals of "1- Strongly disagree" through to "5- Strongly agree." Higher scores obtained from the scale refer to an increase in teachers' autonomy behaviors. Goodness of fit indices that emerged as a result of confirmatory factor analysis ($\chi^2/df = 2.23$, GFI = .90, AGFI = .86, RMSEA = .06, SRMR = .06, CFI = .97, IFI = .97, NFI = .94, NNFI = .96, PGFI = .66) confirmed the validity of the scale. Cronbach's Alpha coefficients of the dimensions of the scale were found to be between .78 and .89 (Çolak, 2016). The internal consistency coefficients computed within the current study are .78 for teaching autonomy, .81 for curriculum autonomy, .76 for professional development autonomy, .70 for communication autonomy, and .88 for the whole scale.

Data Analysis

In the analysis of the data, descriptive statistics, *t*-test, and ANOVA were employed. For significant *F* values, *Sidak* test was used so as to determine the source of significant differences. Besides, hierarchical regression analysis was used to determine whether or not teachers' structural and psychological empowerment significantly predicts their autonomy behaviors. Prior to the regression analysis, the necessity of the analysis was tested. In this regard, extreme values analysis was conducted. In the identification of extreme values, *z* scores ($z < 3$) and Mahalanobis distance values were computed. The normality of the distribution was assessed with skewness and kurtosis coefficients, and it was observed that these values ranged in the intervals of "-1" through "+1" (for all variables, skewness coefficients were found to be between -.68 and +.22, and kurtosis between -.60 and +.20). In this way, the distribution was considered to be normal. Another issue for regression analysis is a multicollinearity problem among the variables. In the current study, Variance Inflation Factor (VIF) analysis and tolerance values were employed to determine the possibility of a multicollinearity problem among the variables. When the tolerance values are lower than .10 (Hair, Black, Babin, & Anderson, 2010), and the value of VIF higher than .10, it points to a multicollinearity problem (Myers, 1990). In the current study, the lowest tolerance value was computed as .27, and highest values of VIF as 3.66; it was therefore decided that there was no multicollinearity problem among the variables.

FINDINGS

In this section, the teachers' perceptions of structural and psychological empowerment and their views on autonomy are first discussed, and then the findings regarding comparisons of these views in terms of gender, school type, and seniority are presented. Lastly, it was aimed to determine to what extent teachers' structural and psychological empowerment explained their autonomy.

According to the findings obtained from the study, teachers' structural empowerment was above the medium level ($\bar{x}$=3.75, S=.60). In terms of the dimensions of structural empowerment, participants gave the highest scores to the dimensions of autonomy supportive environment ($\bar{x}$=4.05, S=0.63), accountable environment ($\bar{x}$=3.89, S=0.69), facilitative school environment ($\bar{x}$=3.82, S=0.68), participatory decision-making environment ($\bar{x}$=3.79, S=0.70), and professional development supportive environment ($\bar{x}$=2.99, S=0.86), respectively.

In terms of the gender variable, teachers' structural empowerment did not differ in the dimensions of participatory decision-making environment [$t_{(323)}$=0.31; p>.05], accountable environment [$t_{(323)}$=0.24; p>.05], professional development supportive environment [$t_{(323)}$=0.10; p>.05], facilitative school environment [$t_{(323)}$=0.18; p>.05], autonomy supportive environment [$t_{(323)}$=1.36; p>.05], and in the total score.

However, teachers' structural empowerment differed significantly in terms of school type and seniority variables. In terms of the school type variable, teachers' structural empowerment differed in the dimensions of participatory decision-making environment [$F_{(2-322)}$=9.47; p<.05], facilitative school environment [$F_{(2-322)}$=4.12; p<.05], autonomy supportive environment [$F_{(2-322)}$=9.77; p<.05], and in the total score [$F_{(2-322)}$=5.47; p<.05]; while it did not differ in the dimensions of accountable environment [$F_{(2-322)}$=0.88; p>.05] and professional development supportive environment [$F_{(2-322)}$=0.24; p>.05]. The difference in the total score of structural empowerment was between elementary school teachers ($\bar{x}$=.95, S=0.59) and upper secondary school teachers ($\bar{x}$=3.64, S=0.58); the difference in the dimension of facilitative school environment was also between elementary school teachers ($\bar{x}$=3.97, S=0.69) and upper secondary school teachers ($\bar{x}$=3.69, S=0.67). The difference in the participatory decision-making environment dimension of structural empowerment was between elementary school teachers ($\bar{x}$=4.11, S=0.60), and lower secondary ($\bar{x}$=3.80, S=0.70) and upper secondary school teachers ($\bar{x}$=3.63, S=0.71). The difference in autonomy supportive environment dimension of structural empowerment was between upper secondary school teachers ($\bar{x}$=3.89, S=0.63), and elementary ($\bar{x}$=4.30, S=0.55) and lower secondary school teachers ($\bar{x}$=4.11, S=0.61).

In terms of the seniority variable, teachers' structural empowerment differed in the dimensions of facilitative school environment [$F_{(2-322)}$=3.75; p<.05], autonomy supportive environment [$F_{(2-322)}$=3.37; p<.05], and in the total score [$F_{(2-322)}$=3.22; p<.05]; while it did not differ in the dimensions of participatory decision-making environment [$F_{(2-322)}$=2.88; p>.05], accountable environment [$F_{(2-322)}$=1.54; p>.05], and professional development supportive environment [$F_{(2-322)}$=2.34; p>.05]. The difference in the total score of structural empowerment was between teachers with 20 years or more seniority ($\bar{x}$=3.66, S=0.61), and nine years or less seniority ($\bar{x}$=3.86, S=0.62) and 10 to 19 years of seniority ($\bar{x}$=3.81, S=0.58); the difference in the dimension of autonomy supportive environment was also between teachers with 20 years or more seniority ($\bar{x}$=3.95, S=0.64), and nine years or less seniority ($\bar{x}$=4.14, S=0.59) and 10 to 19 years of seniority ($\bar{x}$=4.12, S=0.62). The difference in the facilitative school environment dimension of structural empowerment was between teachers with 10 to 19 years of seniority ($\bar{x}$=3.92, S=0.66) and 20 years or more seniority ($\bar{x}$=3.70, S=0.67).

Teachers had a high level of psychological empowerment perception ($\bar{x}$=4.26, S=0.39). Teachers' scores in the individual empowerment dimension ($\bar{x}$=4.64, S=0.36) of psychological empowerment were found to be higher when compared to the relational empowerment dimension ($\bar{x}$=3.88, S=.57). Teachers' psychological empowerment differed significantly in terms of gender, school type, and seniority.

In terms of the gender variable, teachers' psychological empowerment differed in the dimension of relational empowerment [$t_{(323)}$=3.05; p<.05] and in the total score [$t_{(323)}$=2.12; p<.05]; while it did not differ in the dimension of individual empowerment [$t_{(323)}$=0.26; p>.05]. Male teachers' relational empowerment ($\bar{x}$=3.99, S=0.55) and total psychological empowerment ($\bar{x}$=4.31, S=0.39) scores were higher than female teachers' relational empowerment ($\bar{x}$=3.80, S=0.57) and total psychological empowerment ($\bar{x}$=4.22, S=0.38) scores.

In terms of the school type variable, teachers' psychological empowerment differed in the dimension of relational empowerment [$F_{(2-322)}$=3.89; p<.05], while it did not differ in the dimension of individual empowerment [$F_{(2-322)}$=0.02; p>.05], and in the total score [$F_{(2-322)}$=2.03; p>.05]. Elementary school teachers' relational empowerment scores ($\bar{x}$=4.00, S=0.56) were found to be higher than upper secondary school teachers' scores ($\bar{x}$=3.78, S=0.59). In terms of the seniority variable, teachers' psychological empowerment differed in the dimension of relational empowerment [$F_{(2-322)}$=3.75; p<.05]; while it did not differ in the dimension of individual empowerment [$F_{(2-322)}$=0.81; p>.05] and in the total score [$F_{(2-322)}$=2.94; p>.05]. Teachers with 10 to 19 years of seniority had higher relational empowerment scores ($\bar{x}$=3.98, S=0.53) than teachers with nine years or less seniority ($\bar{x}$=3.75, S=0.56).

According to the findings obtained from the study, teachers displayed a high level of general autonomy ($\bar{x}$=4.13, S=0.48). Out of all the autonomy dimensions, teachers thought that they displayed teaching autonomy the most ($\bar{x}$=4.31, S=0.49). This dimension was followed by communication autonomy ($\bar{x}$=4.19, S=0.62) and curriculum autonomy ($\bar{x}$=4.14, S=0.65), respectively. Teachers displayed professional development autonomy the least ($\bar{x}$=3.74, S=0.84). Teacher autonomy differed significantly in the dimensions of gender and school type, while it did not differ in the dimension of seniority.

In terms of the gender variable, teacher autonomy differed in the dimension of communication autonomy [$t_{(323)}$=2.37; p<.05]; while it did not differ in the dimensions of teaching autonomy [$t_{(323)}$ = 0.73; p > .05], curriculum autonomy [$t_{(323)}$=0.59; p>.05], professional development autonomy [$t_{(323)}$=0.11; p>.05], or in the total score [$t_{(323)}$=0.18; p>.05]. Male teachers ($\bar{x}$=4.28, S=0.63) displayed higher communication autonomy than female teachers ($\bar{x}$=4.12, S=0.60).

In terms of the school type variable, teacher autonomy differed in the dimensions of teaching autonomy [$F_{(2-322)}$=3.27; p<.05], curriculum autonomy [$F_{(2-322)}$=3.72; p<.05], communication autonomy [$F_{(2-322)}$=4.73; p<.05], and in the total score [$F_{(2-322)}$=4.40; p<.05]; while it did not differ in the dimension of professional development autonomy [$F_{(2-322)}$=1.52; p>.05]. Elementary school teachers ($\bar{x}$=4.45, S=0.45) displayed higher teaching autonomy than upper secondary school teachers ($\bar{x}$=4.24, S=0.54). Similarly, elementary school teachers ($\bar{x}$=4.31, S=0.63) also displayed higher curriculum autonomy than upper secondary school teachers ($\bar{x}$=4.04, S=0.68). Elementary school teachers ($\bar{x}$=4.40, S=0.57) displayed higher communication autonomy than lower secondary school teachers ($\bar{x}$=4.11, S=0.61), and similarly elementary school teachers ($\bar{x}$=4.30, S=0.47) displayed higher general autonomy than lower secondary ($\bar{x}$=4.12, S=0.46) and upper secondary school teachers ($\bar{x}$=4.08, S=0.51).

In terms of the seniority variable, teacher autonomy did not differ in the dimensions of teaching autonomy [$F_{(2-322)}$=1.87; p>.05], curriculum autonomy [$F_{(2-322)}$=0.33; p>.05], communication autonomy [$F_{(2-322)}$=1.46; p>.05], professional development autonomy [$F_{(2-322)}$=1.65; p>.05], and in the total score [$F_{(2-322)}$=0.18; p>.05].

The final purpose of the study was to determine to what extent teachers' structural and psychological empowerment explained their autonomy. To this end, a hierarchical regression analysis was conducted. In this analysis, the variables were included in the regression analysis in three groups. In the first model, the effect of structural empowerment was tested, and in the second model the effect of psychological empowerment on teacher autonomy was tested. In the third model, all the variables in these first two models were included in the analysis. Regression analysis results regarding the prediction of teacher autonomy are presented in Table 1.

Table 1. *Regression analysis results for the prediction of teacher autonomy*

Model	*Variables*	*B*	*SE*	*β*	*t*	*p*	*Zero-order (r)*	*Partial (r)*
1	*Constant*	2.09	.14	-	15.48	.00	-	-
	Participatory decision-making environment	.28	.05	.41	5.59	.00	.55	.30
	Accountable environment	.00	.05	.00	.05	.96	.46	.00
	Professional development supportive env.	-.01	.03	-.02	.33	.74	.29	-.02
	Facilitative school environment	-.22	.06	-.31	3.97	.00	.41	-.22
	Autonomy supportive environment	.46	.05	.59	9.73	.00	.48	.40
	$R = .69$, $R^2 = 47$, $F_{(5\text{-}319)} = 56.28$, $p = .00$							
2	*Constant*	1.14	.30	-	3.78	.00	-	-
	Individual empowerment	.40	.07	.30	5.92	.00	.42	.31
	Relational empowerment	.29	.04	.34	6.80	.00	.45	.35
	$R = .53$, $R^2 = 28$, $F_{(2\text{-}322)} = 62.00$, $p = .00$							
3	*Constant*	.79	.25	-	3.19	.00	-	-
	Participatory decision-making environment	.27	.05	.40	5.69	.00	.55	.30
	Accountable environment	-.04	.05	-.06	-.93	.35	.46	-.05
	Professional development supportive env.	.00	.03	.00	.19	.85	.29	.01
	Facilitative school environment	-.24	.05	-.33	-4.62	.00	.41	-.25
	Autonomy supportive environment	.40	.05	.51	8.79	.00	.64	.44
	Individual empowerment	.28	.06	.20	4.80	.00	.42	.26
	Relational empowerment	.13	.04	.15	3.36	.00	.45	.19
	$R = .73$, $R^2 = 53$, $F_{(7\text{-}317)} = 51.72$, $p = .00$							

According to Table 1, Model 1 ($R=.69$, $R^2=.47$, $p<.01$) and Model 2 ($R=.53$, $R^2=.28$, $p<.01$) were the significant predictors of teacher autonomy. Model 1, by itself, explained 47% of teacher autonomy, whereas Model 2 explained 28% of teacher autonomy. Additionally, Model 3, which was developed in order for psychological and structural empowerment to predict teacher autonomy, was found to be significant ($R=.73$, $R^2=.53$, $p<.01$). The first and second models together explained 53% of teacher autonomy. Including psychological empowerment in the regression analysis provided a 6% contribution to the variance. According to the standardized regression coefficient (β), the relative order of importance regarding the predictor variables on teacher autonomy was as follows; autonomy supportive environment, participatory decision-making environment, facilitative school environment, individual empowerment, relational empowerment, accountable environment, professional development supportive environment.

When the t-test results concerning the significance of regression coefficients were examined, it could be concluded that both individual and relational empowerment dimensions of psychological empowerment, and autonomy supportive environment, facilitative school environment, and participatory decision-making environment dimensions of structural empowerment were the significant predictors of teacher autonomy. However, accountable

environment and professional development supportive environment dimensions of structural empowerment were found to have no significant effect on teacher autonomy. It was surprising that although there was a positive and medium level of relationship (r = .41) between teacher autonomy and facilitative school environment dimension of structural empowerment, when the other variables were controlled, there was a negative and low level of relationship (r = -.25) found between these two variables. According to the findings, the regression equation for the prediction of teacher autonomy was as follows:

Teacher Autonomy = .79 + .27 Participatory Decision-Making Environment - .04 Accountable Environment + .00 Professional Development Supportive Environment - .24 Facilitative School Environment + .40 Autonomy Supportive Environment + .28 Individual Empowerment + .13 Relational Empowerment

RESULTS, DISCUSSION, AND SUGGESTIONS

In this study, it was aimed to determine to what extent teachers' structural and psychological empowerment explained their autonomy. Firstly, teachers' perceptions of structural and psychological empowerment and their views on autonomy were examined. Teachers' general structural empowerment was found to be above the medium level. This result is consistent with other studies in the literature which used different data collection tools to assess structural empowerment (Altınkurt, Türkkaş-Anasız, & Ekinci, 2016; Odabaş, 2014). For teachers to feel themselves structurally empowered, working in a supportive, facilitative environment and participating in decision-making processes are crucial. However, taking the central structure of education in Turkey into account, it could be asserted that teachers and even schools are restricted in many ways by legislation and regulations. For example, teachers do not have a voice in the curriculum or decisions concerning the school. Similarly, the school does not have a voice in managing the school budget. However, empowering teachers can make a significant contribution to both teachers and schools. According to Altınkurt et al. (2016), structurally empowered teachers have higher organizational commitment, job satisfaction, and job efficiency.

Teachers' structural empowerment did not differ in terms of gender. However, there were significant differences in terms of school type and seniority in some dimensions. In terms of the school type variable, significant differences were found in the dimensions of participatory decision-making environment, facilitative school environment, and autonomy supportive environment. Regarding these three dimensions, elementary school teachers had higher structural empowerment perceptions than lower secondary and upper secondary school teachers. Altınkurt et al. (2016) achieved similar results in their study using a different scale, with differences found in favor of elementary school teachers in knowledge and opportunity, solidarity climate, and work conditions dimensions of structural empowerment. The reason for elementary school teachers having higher structural empowerment perceptions might stem from a more collaborative culture and intimate climate in these schools. In terms of the seniority variable, differences were found in the dimensions of facilitative school environment and autonomy supportive environment. Teachers with more seniority thought that the school environment was less facilitative and less autonomy supportive. Teachers' having more expectations as their seniority increased may be a reason for senior teachers to perceive a school environment as less facilitative and less autonomy supportive. Similarly, teachers' acquiring competence and their desire to act more comfortably and autonomously as a result of increasing seniority may be another reason for this finding.

Teachers showed a high level of psychological empowerment perception. Teachers' perceptions in the dimension of individual empowerment were higher when compared to their perceptions in relational empowerment. This finding concurs with many studies to be found in the literature (e.g., Altınkurt et al., 2016; Çekmecelioğlu & Eren, 2007; İlisu, 2012; Karadal & Kılıç, 2008). Individual empowerment refers to individual's self-confidence, whereas relational empowerment refers to the distribution of power by administrators (Odabaş, 2014). In the current study, individual empowerment perceptions, which indicates self-confidence of teachers, were found to be higher than relational empowerment; indicating administrators' distribution of power. At this point, it could be asserted that teachers were not afforded adequate voice by the central authority although they trust in their competence. In order for teachers to be able to reflect their proficiency on their profession, this could be possible if they were to be afforded specific authority.

Teachers' psychological empowerment differed significantly in terms of school type and seniority variables. Male teachers' relational empowerment perceptions were higher than female teachers. When it is considered that relational empowerment is related to power distribution within an organization, this seems to be consistent with the findings of the current study which is related to autonomy. Male teachers' having relatively higher perceptions of general autonomy, despite not being significant, may be one of the reasons for this finding. However, in the literature there are studies that arrived at different results. Teachers' psychological empowerment differed in terms of gender in the study of Odabaş (2014). In the study of Altınkurt et al. (2016), there were differences seen in favor of female teachers. It is therefore thought that in-depth qualitative studies should be conducted in order to find out the reason behind these differences in findings. In terms of school type, elementary school teachers had higher relational empowerment perceptions than upper secondary school teachers. The reason for this may be that elementary schools are relatively smaller than upper secondary schools and that elementary schools have a more intimate culture across administrators and teachers. Similarly, in the study of Altınkurt et al. (2016), there was also a significant difference seen in favor of elementary school teachers. However, in the studies of Okan and Yılmaz (2017) and Çağrı-Şan (2017), it was found that psychological empowerment did not differ according to school type. In terms of the seniority variable, teachers with more seniority had more positive views towards psychological empowerment. This finding seems understandable because teachers may think that they have more control over their work as their competence and self-confidence increases as a result of their increased seniority.

Another purpose of the current study was to examine teachers' views regarding autonomy. Teachers participating in the study indicated that they displayed a high level of autonomy. There are studies to be found in the literature which reported that teachers displayed a high level (Garvin, 2007) and above average level of autonomy (Çolak, 2016; Çolak & Altınkurt, 2017; Çolak et al., 2017). In the current study, teachers displayed teaching autonomy the most, and professional development the least. In the literature, there are some studies that also support this finding (Archbald & Porter, 1994; Çolak, 2016; Çolak & Altınkurt, 2017; Çolak et al., 2017; Karabacak, 2014; LaCoe, 2006). Although teacher autonomy is restricted by the central curriculum and regulations in Turkey, the current study found that teachers thought that they displayed a considerable level of autonomy. One reason for this finding may be teachers wanting to utilize their professional competence and expertise in their jobs. In Turkey, there are a considerable amount of level differences and socioeconomic status differences among schools and among students. Therefore, teachers taking on responsibilities in order to

teach effectively may want to reorganize the teaching process and central curriculum according to students at different levels. The results of the current study also revealed that teachers believe that they have taken an active role in the process of education by displaying a high level of autonomy.

Teacher autonomy differed significantly in terms of gender and school type variables, while it did not differ in terms of the seniority variable. Communication autonomy of male teachers was higher than female teachers. In the literature, there are studies on teacher autonomy which did not differ in terms of gender (Çolak & Altınkurt, 2017; Çolak et al., 2017; Pearson & Hall, 1993). In the current study, the difference in terms of gender may show that male teachers express their views to their colleagues, administrators, and parents more easily than female teachers do. This situation may stem from males having relatively more voice within the context of gender roles in a patriarchal society. The reason for male teachers' expressing their views more easily may be the reflection of social stereotyping on the organization. However, in order for this situation to be understood better, it may be suggested to conduct in-depth qualitative studies in this area. In terms of the school type variable, elementary school teachers displayed a higher teaching autonomy and curriculum autonomy than upper secondary school teachers. Similarly, elementary school teachers also displayed higher communication autonomy than lower secondary school teachers. Çolak et al. (2017) also found that elementary school teachers had a higher teaching autonomy than upper secondary and vocational upper secondary school teachers. This result of the current study may stem from elementary school teachers' being more supported by their administrators and from a higher autonomy supportive environment. That elementary teachers in the current study had more positive views towards some dimensions of structural and psychological empowerment also tends to support this explanation.

The final purpose of the current study was to determine to what extent structural and psychological empowerment explained teacher autonomy. To this end, three separate models were created. In the first two models, the effect of structural and psychological empowerment on teacher autonomy was examined separately; whereas, the third model investigated their effects together. According to the first model, there were found to be positive and medium or close to medium level relationships between the dimensions of structural empowerment and teacher autonomy. When the *t*-test results concerning the significance of regression coefficients were examined, participatory decision-making environment, facilitative school environment, and autonomy supportive environment dimensions of structural empowerment were determined to be significant predictors of teacher autonomy. Structural empowerment, by itself, explained nearly half of teacher autonomy. According to the second model, there were found to be positive and medium level relationships between both individual and relational empowerment dimensions of psychological empowerment and teacher autonomy. When the *t*-test results concerning the significance of regression coefficients were examined, both of these dimensions were determined to be significant predictors of teacher autonomy. Psychological autonomy, by itself, explained nearly one-third of teacher autonomy. In the third model, structural and psychological empowerment together explained more than half of teacher autonomy. All dimensions which were significant in the first and second model were found to be also significant in the third model. When the zero-order correlations were examined, it was striking that although there was a positive and medium level of relationship between teacher autonomy and the facilitative school environment dimension of structural empowerment, when the other variables were controlled, a negative and low level of

relationship was seen. In other words, although facilitative school environment increased teacher autonomy with the other dimensions of structural and psychological environment, separately it had a negative effect on teacher autonomy. In terms of the results of the current study, this finding is striking. This situation might stem from teachers' finding school environment motivating when they are structurally and psychologically empowered, or not finding a facilitative school environment separate enough when not empowered. This finding may also have arisen from the sample of the study. Therefore, designing studies with different samples to determine the relationship between empowerment and autonomy may contribute to the literature.

In general, providing teachers with participatory decision-making, facilitative, and autonomy supportive environment in terms of structural empowerment; having self-confidence and power sharing by administrators in terms of psychological empowerment increases teacher autonomy. Thus, school principals, to back up teacher autonomy, can include teachers in decision-making processes, provide convenience in reaching course materials and in educational activities, and encourage teachers to make their own decisions in professional matters. Also, making teachers feel that they are powerful and that their job is important may also contribute to their autonomy.

Consequently, organizations that provide teachers with a facilitative environment and motivate teachers are structurally and psychologically empowering them, and thereby have an influence on teacher autonomy. Although being empowered by school principals is crucial for teacher autonomy, it is also important to enable rights for teachers through legislation and regulations. The reason is that no matter how much of a facilitative environment that school principals provide for their teachers, that case will unlikely go beyond given limits. Or, teachers will not want to use the kind of autonomy given outside of the regulations. Taking the highly centralized structure of the Turkish education system into account, it does not seem likely that teachers can act professionally in making their own decisions about matters concerning their profession. Therefore, for teachers to act autonomously, structural and psychological empowerment, as well as some legal autonomy concerning their professional decisions, should be provided. Besides, teachers should be enabled to reorganize the educational environment and curriculum according to the needs of their students. Within this frame, it is suggested that in-depth studies be conducted on the regulation, limits, and scope of teacher autonomy.

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